Supplemental and Rebuttal: EXPERT OPINION

On:

Measurement of Money Damages

In:

Andrew Alexander, et al.

ν.

Pelicia E. Hall, et al.

United States District Court
Northern District of Mississippi
Greenville Division
Civil Action No.: 4:20-cv-00021-DMB-JMV

Submitted on: December 11, 2023

Expert Report of: Jonathan S. Shefftz

d/b/a JShefftz Consulting 14 Moody Field Road Amherst MA 01002

EXHIBIT

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Curriculum Vitae

(including publications and public presentations for at least the last ten years and testimony history for at least the last four years)

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Supplemental and Rebuttal Expert Opinion of Jonathan S. Shefftz

Measurement of Money Damages

December 11, 2023

1. Summary of Opinion

I have been asked by counsel for Plaintiffs in this matter to provide an expert opinion regarding the measurement of money damages suffered by Plaintiffs. According to the Fifth Amended Complaint, filed March 16, 2021:

[...] Plaintiffs are currently being confined in conditions which pose serious and imminent dangers to their safety and well-being.

Since the time of my initial report in this matter, dated, August 24, 2023, I have reviewed the report of Defendants' witness, Philip J. Cross, dated October 24, 2023 ("Cross report"). Based upon my review of the Cross report, my findings from additional research, and my revised and expanded calculations, my updated opinions in this supplemental and rebuttal report – which is designed to be able to be read on its own without reference to my initial report – are as follows:

- For inmate-specific injuries or even death that can reasonably be expected to result in pecuniary damages via the inability to gain employment upon release, the money damages can be calculated reasonably accurately on an individual basis based on only three Plaintiff-specific attributes (i.e., death versus injury, date of birth, and anticipated release date), for which I present a revised model in this supplemental and rebuttal report.
- Alternatively, if additional precision is sought for such calculations of pecuniary damages, in this supplemental and rebuttal report I present a new expanded model that includes six Plaintiff-specific attributes (i.e., the aforementioned death versus injury, date of birth, and anticipated release

- date, plus labor force status at the time of conviction, educational attainment, and projected hourly wage rate).
- Although I have not yet attempted to calculate the possible average, median, or other central tendency indicators for pecuniary damages among Plaintiffs, merely my example calculations demonstrate how per-Plaintiff damages even without adjustments for litigation risk can be less than the sum of what I would typically charge for my services on an individual case (i.e., essentially a minimum of eight hours at the same hourly rate I am charging for this case) plus attorney costs.
- Revising my calculations from my initial report, awards by U.S. courts can
 be extrapolated to Plaintiffs as a class in the amount of approximately \$35.3
 million, or approximately \$31.4 million based on a lower figure from the
 Cross report for the number of inmates.
- Also revising my calculations from my initial report, awards by the European Court of Human Rights can be extrapolated to Plaintiffs as a class in the amount of approximately \$26.4 million, or approximately \$23.5 million based on a lower figure from the Cross report for the number of inmates.
- As I previously opined in my initial report, for non-pecuniary damages that have been suffered by all inmates in comparable conditions, although the economic concepts of Willingness to Pay ("WTP") and Willingness to Accept ("WTA") could in theory estimate the money damages on a class basis, in reality no such reliable WTP and WTA analysis can be performed for the conditions alleged by Plaintiffs in this matter.

Note that I am not opining on any legal issues of liability. Instead I am opining solely on the measurement of money damages suffered by Plaintiffs. I am also not opining on any damages calculations in the Cross report – whether pecuniary or non-pecuniary – since the Cross report performs no such damages calculations. I may revise my calculations at some future time to reflect additional documentation, encompass additional details, and/or reconsider already received information.

2. Basis for Opinion: Professional Expertise and Materials Considered

My opinion is based broadly on my expertise in economic and financial analysis. I hold both undergraduate and graduate degrees with a focus on economics in various contexts. I have been an economics consultant to both private- and public-sector clients since 1992, first employed by Industrial Economics, Incorporated (a consulting firm based in Cambridge, Massachusetts) and then since the spring of 2006 as an independent consultant (d/b/a JShefftz Consulting) in coordination with my family's move to Western Massachusetts. (In addition to work I perform directly for clients, I continued to work with my former employer into 2017 under numerous subcontracts for various of our clients.)

The main focus of my consulting practice has been the application of financial economics to the analysis of businesses, individuals, and municipalities. A major component of this work has been in the litigation context, while other work has entailed the assessment of regulatory impacts and the evaluation of public policy alternatives (including the calculation of financial assurance and trust funds for future liabilities).

I have been qualified as an expert witness numerous times in U.S. District Court trials and hearings, a federal government agency's Administrative Court hearings, and state courts (including Massachusetts). Among my professional memberships and activities, I have served as the Eastern Vice President for the National Association of Forensic Economics ("NAFE"), charged with – among other duties – organizing the four NAFE paper and/or panel sessions at the annual meeting of the Eastern Economic Association. I have also peer reviewed articles for NAFE's publication, the *Journal of Forensic Economics*.

In my consulting practice, I have performed calculations for economic damages and losses, both for private clients on a wide range of cases and also for federal government agencies on multibillion-dollar breach-of-contract cases. Furthermore, in the area of unjust enrichment, or financial gain, I have served as an expert on numerous cases, drafted a guidance document for a federal government agency, created a computer model that allows laypersons to calculate unjust enrichment from environmental noncompliance, taught training courses to both federal and state staff, and coordinated academic peer reviews for such calculations.

I also have extensive experience in analyzing the financial performance and health of businesses, individuals, and municipalities, both to evaluate economic losses (as in cases like this one) and furthermore to evaluate the ability to afford regulatory expenditures: in the latter area I have worked on numerous cases, created computer models for a federal government agency, and taught training courses to both federal and state staff. For example, I developed (and continued into 2017 to provide support for) a computer model that a federal agency uses to assess individual finances, examining (in part) prior earnings and then projecting historical averages into the future.

My experience also includes the monetization of environmental damages, such as the application of the benefit transfer method. This is used to calculate economic values for ecological amenities by transferring the adjusted results from studies already completed in another – yet

roughly comparable – place, time, and/or activity. For example, monetary values that beachgoers have placed in the past for a particular beach can be applied to a different beach in the present time.

Further details on my background and experience are attached to the main body of this report in the form of my resume, which also includes a list of my publications and public presentations plus a list of the cases in which I have testified going back at least four years.

Documents that I have reviewed for this case include:

- The Fifth Amended Complaint in this matter, filed March 16, 2021, and the Class Action Complaint and Demand for Jury Trial in this matter, filed February 10, 2020.
- "Investigation of the Mississippi State Penitentiary (Parchman)," United States Department of Justice Civil Rights Division, April 20, 2022.
- "The Markov Model of Labor Force Activity 2012-17: Extended Tables of Central Tendency, Shape, Percentile Points, and Bootstrap Standard Errors," by Gary R. Skoog, James E. Ciecka and Kurt V. Krueger, *Journal of Forensic Economics*, 28 (1-2), 2019.
- "Employment of Persons Released from Federal Prison in 2010," U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, by E. Ann Carson, Danielle H. Sandler, Renuka Bhaskar, Leticia E. Fernandez, and Sonya R. Porter, December 2021.
- Determining Economic Damages, by Stanley P. Stephenson and David A. MacPherson (2021-22 edition).
- Settlements and jury awards as published by Lexis from U.S. courts, as cited specifically throughout my report.
- "Measuring Violations of Human Rights: An Empirical Analysis of Awards in Respect of Non-Pecuniary Damage under the European Convention on Human Rights," Zeitschrift für ausländisches öffentliches Recht und Völkerrecht [Heidelberg Journal of International Law], by Szilvia Altwicker-Hàmori, Tilmann Altwicker, and Anne Peters, 2016, 76(1):1-51.
- "Measuring Damages for Violations of Individuals' Constitutional Rights,"
 Valparaiso University Law Review, 1974; 8:57.
- "Damages: A Remedy for the Violation of Constitutional Rights," *California Law Review*, December 1979, Vol. 67, No. 6.

- "Pain, Suffering, and Jury Awards: a Study of the Cost of Wrongful Convictions," *Criminology and Public Policy*, by Mark A. Cohen, 2021; 20:691–727.
- Mississippi Department of Corrections, printouts for unique listing of inmates housed at Units 29 and 32, between January 1, 2018 and February 29, 2020.
- Report of Philip J. Cross, dated October 24, 2023.
- "Educational Characteristics of Prisoners: Data from the ACS," by Stephanie Ewert and Tara Wildhagen, U.S. Census Bureau, Housing and Household Economic Statistics Division, SEHSD Working Paper # 2011-8 presented at the Annual Meeting of the Population Association of America, Washington, DC, March 31- April 2, 2011.
- "Highlights from the U.S. PIAAC Survey of Incarcerated Adults: Their Skills, Work Experience, Education, and Training," NCES 2016-040, U.S. Department of Education, November 2016.
- "Education and Correctional Populations," by Caroline Wolf Harlow, Bureau of Justice Statistics, January 2003.

I have also conducted independent research for various economic inputs as cited throughout my calculations in my report.

3. Basis for Opinion: Analytical Methodologies, Calculations, and Results – Pecuniary Damages

For inmate-specific injuries – or even death – that can reasonably be expected to result in pecuniary losses via the inability to gain employment upon release, the money damages can be calculated accurately on based on only three inmate-specific attributes, as follows:

- death versus injury (i.e., as the cause of the inability to gain employment upon release),
- 2) date of birth, and
- 3) expected release date.

I had previously included an additional attribute of gender, but, as pointed out in the Cross report, this attribute is unnecessary given the all-male characteristics of Plaintiffs, so I have now removed that attribute from my model.¹

For the necessary additional parameters of my lost earnings calculations, the following subsections provide the bases for my inputs of:

- a. worklife expectancy,
- b. employed percentage of worklife expectancy upon release,
- c. self-consumption of earnings,
- d. earnings level when employed, and
- e. discount rate.

In the following subsections that provide my bases for these inputs, I also respond to the various points raised in the Cross report. Some of the revisions to my model for calculating pecuniary damages are in response to points raised in the Cross report, and in my opinion those revisions would enhance the accuracy of my model when applied to actual Plaintiff attributes. Certain other points raised in the Cross report do not in my opinion warrant changes to my model.

² Moreover, none of the points raised in the Cross report affect my conclusion that a relatively

The Cross report correctly describes my prior inclusion of the Plaintiff gender attribute as "superfluous" yet incorrectly includes that description under a section heading of "other errors" even though its inclusion has no impact upon any possible results (hence its status as superfluous).

The Cross report even objects to my use of an expected release date, noting that, "However, inmate (continued...)

streamlined model with a relatively few number of Plaintiff attributes can estimate Plaintiff pecuniary damages with reasonable accuracy.

My model is presented in Table 1 (revised from the original Table 1 in my initial report in this matter), on a separate page immediately following those subsections, with some illustrative results for different combinations of the three inmate-specific attributes. To perform the calculations for all inmates whose future work prospects were foreclosed because of injuries – or even death – suffered while at Parchman, I would need only those three previously referenced inmate-specific characteristics (i.e., gender, death vs. injury, date of birth, and expected release date), then the total pecuniary loss across all such inmates would be a simple matter of copying the calculation cells down across all the rows for the inmates.

My Table 1 is followed by the supporting Table 1a for educational attainment of incarcerated populations and Table 1b for worklife expectancy data and weighted-average calculations. Then Table 1c is an alternative expanded version of Table 1 with the three additional Plaintiff attributes of labor force status upon conviction, educational attainment level, and projected hourly earnings when employed.

a. Worklife Expectancy

For worklife expectancy, I rely on the peer-reviewed article "The Markov Model of Labor Force Activity 2012-17: Extended Tables of Central Tendency, Shape, Percentile Points, and Bootstrap Standard Errors," by Gary R. Skoog, James E. Ciecka and Kurt V. Krueger, *Journal of Forensic Economics*, 28 (1-2), 2019.

This published paper offers many options for fine-tuning the worklife expectancy based on different individual attributes. Previously, I had applied the worklife expectancies from that paper for holders of a GED as a proxy for the central tendency among Parchman inmates. The Cross report took issue with this approximation. Instead, in this supplemental and rebuttal report, my Table 1a provides data for the educational attainment of incarcerated populations from a study published by the U.S. Department of Justice's Bureau of Justice Statistics. In my Table 1b, I provide the worklife expectancy values from the previously referenced peer-reviewed article. I then calculate a weighted-average value across the different educational attainment levels, combined with

² (...continued)

release dates are "Tentative", meaning they are not certain or fixed." But as my input label should make clear, the release date in my model is expected, i.e., not certain or fixed. Many inputs for my work on pecuniary damages in other contexts are similarly expected, rather that known with certainty or absolutely fixed. The Cross report also notes that, "In addition, there are no listed Tentative Release Dates for inmates serving life sentences." For such inmates, the pecuniary damages would of course be zero, as would be the result for any inmate whose expected release date is effectively further out into the future than the end of the inmate's worklife expectancy. Neither of these objections from the Cross report under the subheading of "Expected Release Dates are Not Available" give rise to the need for any modifications to my model.

labor force status data from the published study, "Highlights from the U.S. PIAAC Survey of Incarcerated Adults: Their Skills, Work Experience, Education, and Training," NCES 2016-040, U.S. Department of Education, November 2016.

b. Employed Percentage of Worklife Expectancy Upon Release

The previously presented worklife expectancy incorporates anticipated periods of not being employed. For released inmates, the prospects for employment are lower than that of the general population. To quantify this factor, I rely on the report, "Employment of Persons Released from Federal Prison in 2010," U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, by E. Ann Carson, Danielle H. Sandler, Renuka Bhaskar, Leticia E. Fernandez, and Sonya R. Porter, published December 2021.

Specifically, I use data from Table 5, which I average across the presented 17 quarters, starting with the quarter of release, then going out 16 quarters (i.e., four years). For women, the value is 44.8 percent, and for men the value is 35.1 percent. In other words, my model is calculating that women upon their release would have been employed for slightly less than half the time of their expected remaining worklife, but for their alleged injuries (or even death) that rendered them unable to participate in the workforce. For men, the figure is only slightly more than one-third of their expected remaining worklife.

The Cross report takes issue with my modeling of a constant employment rate, as the 35.1-percent average rate in the Bureau of Justice Statistics comprises what is essentially a front-loaded pattern with a quarterly rate that quickly peaks and then subsequently declines. I could modify my model to incorporate this pattern into my discount rate. This would increase my estimates of pecuniary damages, since shifting more of the employment to earlier quarters has a higher present value than the lower employment rate in later quarters. However, to be conservative, in the sense of producing a downward-biased result in favor of Defendants, I have not conducted such a modification. Moreover, the Figure 1 for this pattern in the Cross report demonstrates only a small effect: the rate peaks at 37 percent yet then declines only to slightly under 34 percent, despite the dramatic slope in the Cross report's graph.

The Cross report also takes issue with my modeling of a 35.1-percent employment rate by citing the recidivism rates. My understanding of the Bureau of Justice Statistics study is that this is already incorporated in the 35.1-percent employment rate: a released inmate who is subsequently incarcerated again would not count as employed in the study. If I am instead not interpreting the interplay between these factors correctly, then I could easily substitute in a lower value for my 35.1-percent employment rate.

c. Self-Consumption of Earnings

For inmates who died while at Parchman, they (or their estates, from a legal perspective) have lost their future earnings that would have been possible upon their anticipated release. But, had they lived, some portion of those earnings would have been spent. Although this can be perceived as somewhat morbid, netting out the savings (of a sort) from not being alive to spend a portion of one's earnings is a standard – albeit not universal – practice in my field.

To quantify this factor, I rely upon the publication, *Determining Economic Damages*, by Stanley P. Stephenson and David A. MacPherson (2021-22 edition). Specifically, I use 78.53 percent from Table 22C ("Expenditures by Income and Consumer Unit Size") for one-earner single-consumer units for expenditures as a percent of before-tax income. (My original Table 1 in my initial report provided both a correct explanatory note for this column and a vestigial note for an earlier draft that I had neglected to delete.)

The Cross report takes issue with this value, essentially arguing that it should be further fine-tuned for income level. If an alternative value had been proposed in the Cross report, then I certainly would have considered incorporating it into my revised model. However, the Cross report provides no such value. If anything, the Cross report seems to be suggesting that the value should exceed 100 percent—"[...] for the lowest 20 percent of income earners, consumption in fact exceeds income."—such that the economic loss of deceased inmates is not lost at all, as from a pecuniary perspective their estates realized a financial gain from their incarcerated relatives dying at Parchman. Perhaps this was not the intention of the Cross report, but without a specific alternative value to the 78.53-percent value in my model, I have no basis for the evaluation of any alternatives.

d. Earnings Level When Employed

I model all post-release inmate earnings at the minimum wage. Mississippi has no state-specific minimum wage and instead simply adopts the federal minimum wage. The federal minimum wage is currently \$7.25 per hour. For similar analyses in other cases, my default approach is to project current earnings levels into the future at a forecast for general economy-wide price inflation (whether via an explicit inflation forecast or via the forecast implicit in U.S. Treasury Inflation-Protected Securities, i.e., TIPS).

But the federal minimum wage was most recently increased in July of 2009. Had the federal minimum wage been increased over time to keep pace with the general price inflation, as measured by the Consumer Price Index ("CPI"), then it would have been \$10.29 as of July 2023, for an increase of a cumulative 41.9 percent over the intervening period.

A scenario under which the federal minimum wage stays constant into the foreseeable future to be covered by the pecuniary damages in this case would appear unlikely. Then again, a scenario under which the federal minimum wage stays constant over a 14-year period with a cumulative 41.9-

percent increase in the cost of living also appears unlikely, yet that is exactly what has happened in the recent past.

Therefore, I use a constant \$7.25 per hour minimum wage, applied to 2,080 hours per year (i.e., 52 weeks multiplied by 40 hours per week) to develop a lower-bound conservative (i.e., biased downward) model for the calculation of pecuniary damages via lost earnings.

The Cross report takes issue with the input of 2,080 hours per year, cited a report that, "[...] only 57.4 percent of low-wage workers work full-time year-round, in contrast to 81.4 percent of mid-to-high wage workers." Therefore, in this supplemental and rebuttal report, I now multiply those 2,080 annual hours by a value of 57.4 percent to incorporate this factor.

The Cross report also cites the impact of the COVID-19 pandemic on the low-wage workforce. In support of this point, the Cross report cites only a single paper. The pandemic certainly had many significant short-term impacts. But some of them significantly helped the low-wage workforce, especially when during the so-called worker shortage. Moreover, my analysis is not focused solely, or even mostly, on the time period during the pandemic. In the many reports that I have written on lost earning capacity both during and since the pandemic, I do not recall any instance in which an opposing economist (whether I was retained on behalf of Plaintiff or Defendant) ever argued that historical studies no longer constitutes reasonable proxies because of vaguely asserted permanent impacts on the U.S. economy from the pandemic.

e. Discount Rate

To aggregate the earnings from different years into a common metric, I calculate their present value ("PV").

The necessity of the present value adjustment is explained via the concept of the "time value of money." For example, in simple terms, a dollar today is worth more than a dollar tomorrow, because investment opportunities are available for today's dollar. Thus, the further in the future that a dollar will be obtained, the less it is worth in "present-value" terms. The greater the time value of money—i.e., the greater the "discount" rate—the less value future costs have in present-value terms. Therefore, the discount rate can be thought of as "exchange rate" between "currencies" of different years.

For my discount rate, I use the interest rate on U.S. Treasury securities, 20-year constant maturities, with a value of 4.61 percent as of August 22, 2023.

revised									
					Table 1				
ļ)F61						
			ECU	NIARY DAMAG					
				INPUTS, CAL	CULATIONS, ILI	LUSTRA	ATIVE RESU	LIS	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Na	me (L	ast/Fir	st),		Expected Rele	ease:		Self-	PV Lost
<u>D</u>	eath v	v <u>s</u> . Inju	ry	Date of Birth	<u>Date</u>	Age	<u>Worklife</u>	Consumption	<u>Earnings</u>
(1)	Doe	John	D	1-Jan-2000	15-Feb-2030	30.12	25.22	78.53%	\$7,290
(2)	Doe	Joe	ı	1-Jan-1990	1-Oct-2025	35.70	21.28	0.00%	\$37,561
Not	es:								
(a)	Line	numbe	r, fo	reference purp	oses only.				
(b)	Nam	e, last.							
(c)	Nam	e, first.							
(d)	Whe	ther lo	st ea	rnings are from	death ("D") or i	njury ('	<u>'I"). </u>		
(e)	Date	of birt	h						
(f)	Expe	cted re	lease	e, date.					
(g) Expected release, age, calculated as: [(f) - (e)] / 365.25									
(h)	(h) Worklife expectancy at date of release, see Tables 1a and 1b for derivation of weighted								
average across prior labor force status (active vs inactive) and educational attainment.									
(i)									
(j)	Calcu	ulated a	as:						
PV	4.619	%, (h),	57.4	% x 2080 x \$7.2	5] x 35.1% x [1	-(i)]/	[1+4.61%]	^ { [(f) - 31-Dec	-2023]/36

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Table 1a

EDUCATIONAL ATTAINMENT OF INCARCERATED POPULATIONS

					Post-	
	8th	Some		High	Secondary/	College
	Grade	High		School	Some	Graduate
	Or Less	<u>School</u>	<u>GED</u>	<u>Diploma</u>	<u>College</u>	Or More
Federal Prisons:	12.0%	14.5%	22.7%	27.0%	15.8%	8.1%
State Prisons:	14.2%	25.5%	28.5%	20.5%	9.0%	2.4%
Local Jail:	13.1%	33.4%	14.1%	25.9%	10.3%	3.2%

Source = U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, "Special Report, Education and Correctional Populations," by Caroline Wolf Harlow, Ph.D., BJS Statistician, January 2003, Table 1. Educational attainment for State and Federal prison inmates, 1997 and 1991, local jail inmates, 1996 and 1989, probationers, 1995, and the general population, 1997.

No. Part P	Table 1b: WORKLIFE EXPECTANCY VALUES AND WEIGHTED-AVERAGE CALCULATIONS															
18	ļ.		<u>tı</u>	nitially	Inactiv	e Men:	33%									Status
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Region 1985	_															
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30 19.50 20.50 23.50 27.50 29.50 33.50 23.79 23.50 23.50 24.50 26.50 30.50 33.50 25.31 31 18.50 18.50 20.50 24.50 25.50 27.50 31.50 21.79 22.50 21.50 23.50 27.50 32.50 23.50 24.45 33 18.50 18.50 20.50 24.50 25.50 27.50 31.50 21.79 22.50 21.50 23.50 27.50 28.50 32.50 24.45 33 18.50 18.50 20.50 24.50 25.50 25.50 28.50 28.50 28.50 20.50 23.50 34 18.50 17.50 19.50 23.50 28.	29	20.50 21	1.50	24.50	28.50	30.50	34.50	24.79								
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36	_									-						22.00
37											-					21.28
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41 10.50 11.50 13.50 16.50 18.50 21.50 13.83 16.50 15.50 15.50 15.50 23.50 27.70 42 9.50 11.50 12.50 15.50 15.50 15.50 15.50 15.50 15.50 15.50 43 8.50 10.50 11.50 13.50 17.50 20.50 13.50 14.50 15.50 15.50 15.50 15.50 15.50 15.50 44 7.50 9.50 10.50 13.50 14.50 18.50 18.50 13.50 13.50 13.50 15.50 45 6.50 8.50 9.50 12.50 13.50 17.50 10.00 13.50 13.50 13.50 15.50 15.50 15.50 15.50 46 6.50 7.50 7.50 10.50 12.50 14.50 8.60 14.50 13.50 13.50 13.50 13.50 46 6.50 7.50 8.50 10.50 12.50 14.50 8.46 12.50 15.50 15.50 16.50 15.50 13.50 48 4.50 6.50 6.50 10.50 11.50 13.50 13.50 13.50 13.50 13.50 49 4.50 5.50 6.50 9.50 10.50 13.50 13.50 13.50 13.50 13.50 13.50 49 4.50 5.50 6.50 9.50 10.50 13.50 13.50 13.50 13.50 13.50 13.50 41 41 41 41 41 41 41					$\overline{}$											18.14
A																17.28
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44				•											_	14.85
45	_		\rightarrow					$\overline{}$				-		$\overline{}$		13.95
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	Table 1c											
	_				RY DAMAGES							
				!	INPUTS, CALCU	JLATIO	NS, ILLUS	rat	VE RESULT	<u>S</u>		
<u> </u>				· 1		1		400	400	41.5	- 415	()
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(I)	(m)
Na	me (L	ast/Fir	st),	Date of	Expected Rel	ease:	Labor Fo			Self-	Hourly	PV Lost
<u>D</u>	eath v	<u>rs. Inju</u>	<u>ry</u>	<u>Birth</u>	<u>Date</u>	<u>Age</u>	<u>& Educa</u>	<u>tion</u>	<u>Worklife</u>	<u>Consumption</u>	<u>Wage</u>	<u>Earnings</u>
(1)	Doe	John	D	1-Jan-2000	15-Feb-2030	30.12	avg	avg	25.22	78.53%	\$7.25	\$7,290
(2)	Doe	Joe	ı	1-Jan-1990	1-Oct-2029	39.70	avg	avg	18.14	0.00%	\$7.25	\$28,402
(3)	Doe	Jim	ı	1-Jan-1990	1-Oct-2029	39.70	Inactive	9th	11.50	0.00%	\$7.25	\$20,569
(4)	Doe	Jack	1	1-Jan-1990	1-Oct-2029	39.70	Active	HS	21.50	0.00%	\$7.25	\$31,557
Not	es:											
(a)	Line i	numbe	r, for	reference pu	urposes only.							
(b)	Name	e, last.										
(c)	Name	e, first.										
(d)	Whet	ther lo	st ea	rnings are fro	m death ("D")	or injui	ry ("I").					
(e)	Date	of birt	h.									
(f)	Expe	cted re	lease	e, date.								
(g)	(g) Expected release, age, calculated as: [(f) - (e)] / 365.25											
(h)	(h) Labor force status at time of conviction, either Active, Inactive, or avg (to use the weighted average of the two).											
(i)	(i) Educational attainment, either 9th (through 9th), 12th (10th through 12th, no diploma), GED, HS (high school											
	diploma), Add'l (some college, but no bachelor's degree), BA/BS (bachelor's degree or more), or avg.											
(j)												
(k)	If col	umn (d	l) = D	eath, then 78	3.53%, based u	pon <i>De</i>	termining	Econ	omic Damo	ages Table 22c.		
(1)	Eithe	r \$7.25	stat	e minimum v	vage or higher	value.						

(m) Calculated as:

PV [4.61%, (h) , 57.4% x 2080 x (l)] x 35.1% x [1 -(k)] / [1 + 4.61%] ^ { [(f) - 31-Dec-2023]/365.25 }

3. Basis for Opinion: Analytical Methodologies, Calculations, and Results – Non-Pecuniary Damages

For non-pecuniary damages that have been suffered by inmates in comparable conditions, the following subsections address different possible approaches:

- a. The economic concept of Willingness to Pay ("WTP").
- b. The economic concept of Willingness to Accept ("WTA").
- c. Awards by U.S. courts.
- d. Awards by the European Court of Human Rights.

As explained in the following subsections, although WTP and WTA could in theory estimate the money damages on a class basis, in reality no such reliable WTP and WTA analysis can be performed for the conditions alleged by Plaintiffs in this matter. However, awards by U.S. courts, where publicly available (i.e., as opposed to confidential settlements), can be extrapolated to Plaintiffs as a class in the amount of approximately \$35.3 million. And awards by the European Court of Human Rights can be extrapolated to Plaintiffs as a class in the amount of approximately \$26.4 million.

Alternatively, applying the inmate counts as calculated in the Cross report, the amounts would be \$31.4 million and \$23.5 million, based on U.S. and European awards, respectively. The Cross report also questions the nexus between the harms underlying these awards and the harms alleged in this matter. I believe that the material in my initial report (repeated in the following subsections), the allegations in the Fifth Amended Complaint in this matter, the published decisions or summaries for the U.S. court awards, and the "protected interest" category for the European awards already establish the relevance of these awards for providing estimates of the non-pecuniary damages in this matter.

a. Willingness to Pay ("WTP")

Imagine a scenario under which an individual faces a high likelihood of being subjected to cramped and generally uncomfortable conditions for a period of several hours. But such conditions are almost certain to be limited to a set and predictable amount of time, with a modest likelihood of being extended by 15 to 30 minutes, yet highly unlikely to persist for much longer. How can we measure the money damages from such non-negligible yet transient discomfort?

The answer to economists is readily apparent: the market for different classes of airfare. For all of the widespread complaining about conditions in the main cabin of domestic flights, travelers almost always have an option to pay in advance to avoid being subjected to such discomfort.

Furthermore, even within the main cabin, the on-line seat selection process often allows travelers to pay extra for to avoid a middle seat or to gain additional leg room.

To take myself as one such example, am I willing to pay the price differential to fly business or first class? For domestic travel, no. I focus on my laptop work or reading material, But, when I fly Southwest Airlines, I now pay the rather modest additional fee for EarlyBird Check-In so that I can be reasonably assured of a window seat and thereby focus better on my work or reading.

In theory, the money damages from being subjected to the conditions alleged at Parchman in this matter could be estimated by analyzing the price differential that inmates in other prison systems are willing to pay to upgrade their incarceration conditions from an experience comparable to that in the April 2022 investigation into the Parchman to conditions that avoid such deficiencies. But of course no such market exists (or least, not publicly documented).

b. Willingness to Accept ("WTA")

Even when WTP can be estimated – from either formal marketplaces or other financial transactions – it is subject to a budget constraint. For example, imagine that the thought experiment in the prior section really did exist, such that prisoners could choose to pay a set amount to be incarcerated under better conditions. But many prisoners would not have the financial resources to pay much – or anything at all – to be incarcerated in better conditions. Even if their WTP for better conditions were almost nothing, that would not mean that their money damages from deficient conditions are negligible.

This deficiency of WTP is addressed by the concept of Willingness to Accept ("WTA"). Once again, the airline industry provides an excellent example: what value do you place on having a flight cancelled, and therefore facing the ramifications of arriving at your intended destination at a later time, or even date? The answer, at least for specific circumstances, is found in how much airlines offer to be voluntarily bumped for an oversold flight, and how many passengers accept those offers.

To take myself as an example, when I have been on my outbound flight, whether flying for pleasure or business, the offer has never so much as tempted me. On my return flight, my willingness to accept the offer depends on how the particular ramifications of the later flight options will affect me (and my family, awaiting my return).

To take a more extreme example, how much do people value avoiding having to face a 99.5-percent chance of death (and in harrowing circumstances too)? The answer for some subset of the population is 45.6 billion. Or some chance of winning that amount. In South Korean Won. Which is currently about \$34 million in U.S. currency. So about \$1.7 million on an expected value basis (i.e., \$34 million multiplied by 0.5 percent).

But that is of course from the television series *Squid Game*, which is of course entirely fictional – even if perhaps it is intended to illustrate the additional risk, discomforts, and abuse that many people are willing to accept in return for monetary compensation, thereby illustrating the money damages from such risk, discomforts, and abuse.³

To take a less extreme example, my graduate thesis at Harvard University examined whether underground coal workers are fully compensated for their occupational health and safety risks they face, both in the near-term (e.g., explosions, roof collapses) and in the long-term (e.g., coal workers' pneumoconiosis, aka Black Lung Disease). Such workers are not explicitly paid set amounts for specific risks. But their wages can be examined, compared to less-risky work, to assess their willingness to accept such risk, and hence how they value such risks.⁴

c. Results from Awards by U.S. Courts

Published studies on the money damages from incarceration generally focus on wrongful incarceration. But that is not at issue in this matter (even if perhaps some subset of the inmates had indeed been wrongfully incarcerated). Instead, the issue, from my perspective as an economist, is the measurement of money damages from the conditions of that incarceration at Parchman (regardless of the processing of the criminal justice system up until the point of incarceration).

As I noted earlier in this report, my experience as a professional economist includes the monetization of environmental damages, such as the application of the benefit transfer method. This is used to calculate economic values for ecological amenities by transferring the adjusted results from studies already completed in another – yet roughly comparable – place, time, and/or activity. For example, values that beachgoers have placed in the past for a particular beach can be applied to a different beach in the present time.

My calculation of the 99.5-percent chance of death is based upon the 187 players who returned after the first game. By contrast, the 456 players who initially accepted the offer were clearly deceived about the nature of what they were accepting. After the second game, 201 players survived, so arguably the chance of death could be anticipated as 200 out of 201, but the again, players had no idea how many would return, so perhaps each player mistakenly though that only a few other players would return after the horrific massacre of the first game. Hence many, most, or even all of the 187 returning players were overestimating their chance of collecting the prize money. But then again, the reunited players in the third episode did not seem surprised at the 93-percent return rate, although perhaps they were suppressing their disappointment at the number of returnees so as to project a more confident demeanor in front of the other players, who, no matter how cooperative at first, would ultimately be their competitors.

⁴ In the reverse of the fictional *Squid Game*, whose 456 initial players were intentionally kept uninformed of the near-certainty they faced of death, I found widespread evidence during the research for my graduate thesis that underground coal workers could form a reasonably accurate assessment of their occupational risks. And hence their wage differentials reflected their money damages from such risks.

The context of this matter might seem different at first from valuing environmental amenities. But from an analytical perspective, it is similar: how much value do people place on avoiding the loss of a fishing stream from a chemical spill, avoiding a lake beach closure from a water quality exceedance, or avoiding being subjected to inhumane conditions?

Settlements in other incarceration cases mainly seem to be confidential. However, Table 2, on the following page, provides a small sample of publicly available awards.

As shown in Table 2, of the six cases, two resulted in significantly high awards. However, as can be inferred even merely from reading the captions for those two cases, the alleged wrongful acts led to (at least in part) to the deaths of those two inmates.

For the other four cases, the awards are relatively modest. The median of those four non-death cases, adjusted for general price inflation to July 2023 dollars, is \$7,856. (Since the number of data observations is an even number, the median, instead of being the number in the middle, is the average of the two middle numbers.)

ļ	repeate	ed .						_		
_	Table 2	2								
_										
-	U.S. COURT AWARDS									
(a)	(b)	,	- (4)							
ان	Caption	(c) Lexis	(d)	(e)	(f)	(g)	(h)	(i)		
(1)	Estate of Gregory Fox, Deceased, by Janet Lowder, Administrator v. Cuyahoga County,	324260	<u>Date</u> 13-Oct-2000	Award	<u>CPI</u>	2023	<u>Plaintiffs</u>	Per Plaintiff		
L	Ohio, Ingrid DiMarino, and Unknown Correctional Officers 1-5	324260	13-Uct-2000	\$950,000	108.1	\$1,649,915	1	\$1,649,915		
(2)	John D. White, individually; Beverly Ann White, individually; Estate of John	42674	4-Nov-2005	\$850,000	121.4	\$1,314,510	1	\$1,314,510		
	Dougles "J.D." White. by and through his successors in interest, John D.			ļ						
l	White and Beverly Ann White v. State of California, Frederick A. Brown,	1				1				
	Warden of California State Prison-Corcoran, et al.	1								
(3)	Matthew Everhart, Robert Fisher, Shawn Laverty, Thomas Piscotty, Jack Asencio, and	421588	19-Apr-2010	\$25,830	134.606	\$36,027	6	\$6,005		
	Jeffrey Bissonnette v. Board of Chosen Freeholders of the County of Sussex, Office of		i							
	the Sussex County Sheriff and Robert Uuntig, individually and in his official capacity of						1			
	Sussex County Sheriff, the State of New Jersey	1	1	İ			'			
(4)	Michael Roberts v. Ohio Department of Rehabilitation and Correction	7262	5-Aug-2013	\$7,500	145.056	\$9,707	1	\$9,707		
(5)	Thomas DeAngelo v. State of New York	58270	13-Dec-1999	\$1,500	105.2	\$2,677	1	\$2,677		
(6)	Townsend v. Allen	228	2007	\$29,500	127.422	\$43,465	1	\$43,465		
Not	es:									
(a)	Line number, for reference purposes only.	_						. 1		
(b)	Case caption.									
(c)	Lexis reference number.									
(d)	Date of award.									
(e)	Lexis reference number.									
(f)	Consumer Price Index ("CPI") value as of date in column (d), for all items in South - Size	Class B/C,	all urban cons	umers, not	seasonally	adjusted.				
(g)	Value of award in 2023 dollars, calculated as: (e) / (f) x 187.743 (i.e., CPI value as of July	2023).								
(h)	Number of plaintiffs.									
(i)	Calculated as: (g) / (h)	•								

Table 3 below provides the results of my benefit transfer method. As shown in Table 3, these U.S. courts awards from Table 2 can be extrapolated to Plaintiffs as a class in the amount of approximately \$35.3 million.

	revised	
	Table 3	
	NON-PECUNIARY DAMAGES BASED ON U.S. COURT AWARDS	
	<u>Description</u>	<u>Value</u>
(1)	Median value from non-death cases in Table 2	\$7,856
(2)	Inmates Jan 2018 through Feb 2020, Unit 29	3,981
(3)	Inmates Jan 2018 through Feb 2020, Unit 32	512
(4)	Inmates Jan 2018 through Feb 2020, Units 29 + 32 total	4,493
(5)	Non-pencuniary damages for the class	\$35,297,008
(6)	Alternatively, inmates as per Cross report	3,994
(7)	Alternatively, non-pencuniary damages for the class as per Cross rpt	\$31,376,864
Notes:		
(1)	Median value for non-death cases in Table 2 column (i).	
(2) & (3)	Counts for unique listings of inmates, MS Department of Corrections.	
(4)	Calculated as: (2) + (3)	
(5)	Calculated as: (1) * (4)	
	Count for unique inmates, as per Cross report	
	Calculated as: (1) * (6)	

d. Results from Awards by the European Court of Human Rights

Following the same approach as the prior subsection of my report, I have reviewed the peer-reviewed article, "Measuring Violations of Human Rights: An Empirical Analysis of Awards in Respect of Non-Pecuniary Damage under the European Convention on Human Rights," Zeitschrift für ausländisches öffentliches Recht und Völkerrecht [Heidelberg Journal of International Law], by Szilvia Altwicker-Hàmori, Tilmann Altwicker, and Anne Peters, 2016, 76(1):1-51.

The European Court of Human Rights covers many "protected interests" that can be used as proxies for the experienced alleged to have been suffered by the Plaintiffs in this matter. Although that Court does not follow a strict schedule for awards, the paper's authors conclude that,

"Our empirical results contradict the frequently voiced academic reproach that the Court's practice is arbitrary or unprincipled."

Table 4 below provides the results of my benefit transfer method. As shown in Table 4, awards by the European Court of Human Rights can be extrapolated to Plaintiffs as a class in the amount of approximately \$26.4 million.

	revised							
Table 4								
NON-PECUNIARY DAMAGES BASED ON EUROPEAN COURT OF HUMAN RIGHTS AWARDS								
	<u>Description</u>	<u>Value</u>						
	Amount awarded in respect of non-pecuniary damage, 2006	€ 3,000						
	Protected interest: Life, physical and mental integrity	2.58%						
(3)	Adjusted for violations of life, physical and mental integrity	€ 3,077						
(4)	Exchange rate for Euro to USD, 2006 average closing price	1.26						
(5)	USD equivalent, 2006	\$3,878						
(6)	Consumer Price Index, 2006 average	123.9						
(7)	Consumer Price Index, 2023 July	187.743						
(8)	USD equivalent, 2023	\$5,876						
(9)	Inmates Jan 2018 through Feb 2020, Unit 29	3,981						
(10)	Inmates Jan 2018 through Feb 2020, Unit 32	512						
(11)	Inmates Jan 2018 through Feb 2020, Units 29 + 32 total	4,493						
(12)	Non-pencuniary damages for the class	\$26,398,750						
(13)	Alternatively, inmates as per Cross report	3,994						
(14)	Non-pencuniary damages for the class	\$23,466,861						
Notes:								
(1)	Median HUDOC 2006 awards, in Euros.							
(2)	Percentage adder for such violations.							
(3)	Calculated as: (1) * [1 + (2)]							
(4)	https://www.macrotrends.net/2548/euro-dollar-exchange-rate-l	nistorical-chart						
(5)	Calculated as: (3) * (4)							
(6) & (7)	All items in South - Size Class B/C, all urban consumers, not seaso	nally adjusted.						
(8)	Calculated as: (5) / (6) * (7)							
(9) & (10)	Counts for unique listings of inmates, Misssissippi Department of	Corrections.						
(11)	Calculated as: (9) + (10)							
(12)	Calculated as: (8) * (11)							
(13)	Count for unique inmates, as per Cross report							
(14)	Calculated as: (8) * (13)							

5. Qualifications and Signature

Jonathan A Sheffy

As previously noted under the section entitled Basis for Opinion: Professional Expertise and Materials Considered, I have separately provided my Curriculum Vitae as this report's Attachment A, which also includes a list of my publications and public presentations going back at least ten years and testimony experience going back at least four years. I receive compensation of \$350 per hour for the time that I have spent preparing this report in calendar year 2023. For testimony in 2023 I would also receive the same rate of \$350 per hour.

I declare under the penalty of perjury that the statements in this report are true and accurate to the best of my knowledge.

Attachment A: Curriculum Vitae

JONATHAN S. SHEFFTZ

d/b/a JShefftz Consulting 14 Moody Field Road Amherst MA 01002

Mr. Shefftz is an independent consultant who specializes in the application of financial economics to litigation disputes, regulatory enforcement, and public policy decisions. Previously he was a consultant with Industrial Economics, Incorporated ("IEc") from 1992 until 2006 when he moved to western Massachusetts. Mr. Shefftz has extensive experience in settlement and litigation support, and has been qualified as an expert witness in U.S. District Court, a federal agency's Administrative Court, and state courts.

Mr. Shefftz's recent experience includes work in the following areas.

- Calculating the economic damages suffered by companies and individuals from alleged wrongful actions.
- Applying financial economics to civil penalty factors in regulatory enforcement actions.
- Analyzing financial economic issues related to public policy decisions.

Mr. Shefftz has performed this work in a variety of contexts, including expert witness testimony, computer model development, training course delivery, and regulatory review. He has supervised project teams comprising economists, accountants, paralegals, and software developers, as well as worked in parallel with engineers, scientists, lawyers, and lobbyists. His clients have included federal and state governmental agencies, private litigators, and other private-sector entities.

Mr. Shefftz holds a B.A. magna cum laude and Phi Beta Kappa in Economics and Political Economy from Amherst College, and an M.P.P. degree, with concentrations in Government & Business and Energy & Environmental Policy, from the John F. Kennedy School of Government at Harvard University.

Mr. Shefftz's positions have included Eastern Vice President for the National Association of Forensic Economics, Chair for the Town of Amherst Planning Board, referee for the *Journal of Forensic Economics*, Course Liaison for the "Engineering Economic Decision Making" course at the University of Massachusetts Amherst, and Treasurer for the Jewish Community of Amherst, American Avalanche Association, Moody Field Homeowner Association, and U.S. Ski Mountaineering Association. He is also a member of the Government Finance Officers Association, American Academy of Economic and Financial Experts, and Amherst Area Chamber of Commerce.

Economic Damages and Unjust Enrichment

Mr. Shefftz has experience with the following work on economic damages and unjust enrichment, including expert witness testimony both in deposition and at trial. He has also applied his expertise in unjust enrichment calculation, financial statement analysis, municipal financial assessment, and corporate control / ownership issues in the context of environmental regulatory enforcement cases, as described in a separate section on a successive page.

Business Damages and Unjust Enrichment

Mr. Shefftz has modeled companies' cash flows under hypothetical "but-for" states of the world versus actual states of the world to calculate business damages in numerous cases. Sample contexts include allegations by: an engineering firm that lost business to a spin-off competitor, timber companies whose contracts were breached via implementation of Congressional legislation, a furniture company whose joint venture was interfered with by a key customer, a fixed base operator prohibited from selling jet fuel by a municipal airport commission, a brownfields remediation firm whose key principal became incapacitated, a state-chartered joint underwriting association whose servicing carrier incorrectly determined premiums, a transportation company that received contaminated fuel, a social networking website imperiled by a developer's nondelivery, an entrepreneur whose computer code was discarded by a demolition crew, an industrial facility whose environmental control facility was undersized by an engineering consultant, a data center operator whose contracting officer received kickbacks, a whistleblower who reported environmental violations under the New York False Claims Act, a whistleblower who reported prescribing practices by a specialty pharmacy, a sports organization whose apparel licensee breached a contract, a food processor whose operations were interrupted by an industrial boiler's natural gas explosion, and a solar power panel installation company whose supplier provided defective equipment

Personal Damages / Losses

Mr. Shefftz has assessed lost earnings and household services along with incurred and anticipated medical costs in numerous cases involving wrongful death, personal injury, wrongful termination, estate disputes, credit card interest overcharges, divorce, and inhumane treatment. Sample contexts include allegations of employment discrimination, medical malpractice, workplace injuries, vehicular accidents, physical assault, retail store accidents, outdoor recreation, below-market earnings, lead poisoning, professional license revocation, violations of the Servicemembers Civil Relief Act, an arrest instigated by a former spouse, judicial incarceration, and delayed payments covered by Massachusetts Chapter 93A.

Economic Damages and Unjust Enrichment (continued)

FIFRA Pesticide Data Compensation

Mr. Shefftz assessed the data compensation amounts owed by a follow-on registrant to the original product registrant under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Class Actions

Mr. Shefftz's work here has included: analyzing whether the minimum damages threshold had been established to certify the class, creating a streamlined model to calculate pecuniary damages across class members, and assessing the economic factors for the presence of a reverse auction.

Present Value of Life Care Plans

Mr. Shefftz has calculated the present value of life care plan projections in numerous cases, both on their own and in connection with personal damages and losses. He has extensive experience in efficiently adjusting the varying periodicities of life care plans into a standardized format.

Water Contamination

For a real estate development, Mr. Shefftz analyzed the diminution in value by projecting the groundwater contamination-induced delayed schedule versus the original schedule. On a claim to have developed groundwater assets but for contamination, he testified on the municipality's impaired financial condition at the time. On a class action lawsuit by property owners, he evaluated the defense economist's statistical analysis of property values. On other water contamination lawsuits, he has calculated the damages from the need to switch to alternative sources of water, including a desalination plant, whole-house drinking water systems, and a neighboring utility.

Intellectual Property

For defense counsel in a copyright infringement lawsuit, Mr. Shefftz assessed declarations from the plaintiff's expert economist who asserted that a "companion" book would damage the author of the original series of novels. He also assisted counsel with preparation for trial cross examination.

Computer Model Development

For the U.S. Department of Justice Commercial Litigation Branch, Mr. Shefftz developed a standalone computer model for statutorily determined interest under the Contract Disputes Act.

Financial Factors in Environmental Regulatory Enforcement

Mr. Shefftz is experienced with the following work on environmental regulatory enforcement actions brought under the Asbestos Hazard Emergency Response Act (AHERA), Clean Air Act (CAA), Clean Water Act (CWA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Emergency Planning and Community Right-to-Know Act (EPCRA), False Claims Act (FSA), Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Oil Pollution Act (OPA), Resource Conservation and Recovery Act (RCRA), Safe Drinking Water Act (SDWA), Spill Prevention, Control and Countermeasure (SPCC) rule, Toxic Substances Control Act (TSCA), Underground Storage Tank (UST) program, as well as various state statutes. Mr. Shefftz has been qualified as an expert witness on numerous occasions in federal, administrative, and state courts. His clients for this work have included the U.S. Environmental Protection Agency (EPA), U.S. Department of Justice (DOJ), private litigators, state Attorneys General, and defense counsel.

Financial Statement Analysis / Ability-to-Pay / Economic Impact / Corporate Control & Ownership

Mr. Shefftz has examined the tax returns, financial statements, and other financial documentation for individuals, businesses, not-for-profits, municipalities, and all four unincorporated organized U.S. territories, to assess the ability to pay for – and/or economic impact of – sought environmental expenditures, e.g., compliance costs, penalty demands, and cleanup/remediation costs. He has reviewed discovery documents and conducted research in many cases to assess the extent to which subsidiaries can rely on their corporate parents for financial support and the extent to which corporate control of subsidiaries goes beyond that exercised by mere ownership.

Financial Gain / Economic Benefit / Unjust Enrichment

Mr. Shefftz has modeled companies' and municipalities' cash flows under hypothetical full and timely compliance states of the world versus actual delayed compliance states of the world to calculate the economic benefit (i.e., financial gain or unjust enrichment) on numerous enforcement actions. Such modeling has focused both on incremental compliance costs that were delayed and/or avoided as well as compliance scenarios that would have entailed impacts on a company's revenues (i.e., so-called illegal profits, competitive advantage, or Beyond BEN Benefit). As part of this work, he has estimated the weighted-average cost of capital for a wide variety of companies and industries.

Financial Factors in Environmental Regulatory Enforcement (continued)

Other Financial Factors in Environmental Regulatory Enforcement Actions

Mr. Shefftz has performed work on other financial factors in regulatory enforcement actions: the "size of violator" penalty element; the potential impact on the penalty calculation from alternative inputs for other "gravity" factors; the relative weight of different financial indicators for establishing deterrence; and, the adequacy of financing plans to ensure environmental compliance.

Computer Model Development, Training, and Support

Mr. Shefftz has managed the development of the Windows operating system versions of the BEN, PROJECT, ABEL, INDIPAY, and MUNIPAY computer models that U.S. EPA's Office of Enforcement and Compliance Assurance applies to financial economics issues in enforcement actions. He has prepared the models' help systems and training materials, as well as presented training courses and provided related support for federal and state enforcement staff. Mr. Shefftz has also assisted in several U.S. EPA academic peer reviews and public comment processes for the BEN computer model and related economic benefit recapture issues. And he has created versions of the models for other nations: Canada (BEN), Chile (BEN and ABEL), and El Salvador (BEN).

Public Policy

Cost of Capital Estimation

Mr. Shefftz assessed peer reviewer comments and then revised a draft report on cost of capital estimation for water systems. His work included applying the capital asset pricing model to the commercial drinking water industry and correcting for the earlier draft's assumptions regarding capital structure and industry-level business risk.

Financial Assurance

For a state agency, Mr. Shefftz proposed appropriate inflation forecasts and discount rates, drafted a guidance document, and then developed a stand-alone computer model to calculate the net present value of future remediation costs. For EPA's Office of Solid Waste, he provided recommendations on discounting future cleanup costs; for the Office of Site Remediation and Enforcement, he created a computer model to assess the combined affordability of financial assurance and cleanup costs; for another EPA office, he created a spreadsheet model to calculate the insurance and/or trust fund amounts necessary to provide for post-closure care. For the U.S. Department of the Interior's Office of Surface Mining Reclamation and Enforcement, he reviewed other agencies' approaches and developed a spreadsheet model to calculate initial trust fund amounts and then recalculate subsequent years' annual rebalancings to reflect actual returns and additional future costs. For a not-for-profit, he reviewed draft reports on the potential role of financial assurance in the regulation of hydraulic fracturing (i.e., "fracking").

Proposed Legislation

For an industry association, Mr. Shefftz designed and implemented a survey and analyzed its results to predict the impacts of a proposed national lead tax upon lead consumption and dependent industrial sectors. For a national waste management firm, he analyzed the financial impacts of a proposed state tax on hazardous waste land disposal. For a citizen group, Mr. Shefftz assessed the economic efficiency of proposed state regulations for municipal water treatment intended to mitigate degradation of coastal waters.

Public Policy (continued)

Joint Cost Allocation

For a study of Bureau of Reclamation rate setting for California's Central Valley Project, Mr. Shefftz researched economically efficient methods for allocating water project costs to user classes.

Superfund Impacts

Mr. Shefftz examined the Department of Energy SURE model's predictions of economic impacts from Superfund liability and cost allocation reform. At a Superfund site, he critiqued a small city's claims that a proposed contaminated soil cleanup would lead to widespread economic disruptions.

Legislative Review

For the 1990 Clean Air Act amendments, Mr. Shefftz investigated the potential of fuel oxygenation requirements to cause petroleum refinery closures. For the Safe Drinking Water Act, he reviewed EPA's national-level drinking water affordability criteria, assessed their implications for small water systems' finances, proposed alternative criteria, created databases to predict how many systems would be judged unable to afford drinking water rules, evaluated public comments, and drafted text of a report in response to a Congressional charge.

Permit Applications

For a citizen group, Mr. Shefftz assessed the economic analysis report accompanying a permit application for a crude oil export terminal with regard to the criteria specified in the state constitution. For another citizen group, he assessed an engineering report and its companion economic and fiscal impact report accompanying a permit application for a wastewater treatment plant with regard to the social and economic factors specified in the state antidegradation regulations.

Representative Clients

Mr. Shefftz has been retained by the following clients, whether directly as an independent consultant, during his prior employment at Industrial Economics, Incorporated ("IEc"), and/or as an independent consultant via subcontract with IEc.

State and Local Agencies:

CaliforniaConnecticutIllinoisIndianaMassachusettsMichiganNew HampshireNew MexicoOhioPennsylvaniaTexasVirginiaWashingtonWisconsin

Allegheny County Health Department (PA)

Federal / National Agencies:

U.S. Department of Justice (Civil Division – Commercial Litigation Branch; Environment and Natural Resources Division – Environmental Enforcement Section, Environmental Defense Section)

U.S. Environmental Protection Agency (various Headquarters Offices and Regional Counsels)

U.S. Fish and Wildlife Service (within U.S. Department of Interior)

National Oceanic and Atmospheric Administration (within U.S. Department of Commerce)

Office of Surface Mining Reclamation and Enforcement (within U.S. Department of Interior)

Superintendecia del Medio Ambiente (Chile)

Ministerio de Medio Ambiente y Recursos Naturales (El Salvador)

Representative Clients (continued)

Industry:

Bouncing Cranberries LLC Circle Environmental, Inc.

Country Villa Bay Vista Healthcare Center CWM Chemical Services, Incorporated

Diesel Performance Parts, Inc. ERL Medical Corporation

Fortune 500 manufacturing company [identity kept confidential as per counsel request]
Fortune Global 500 chemicals company [identity kept confidential as per counsel request]

Frasco Fuel Oil French Heritage, Inc.

Infinity Fluids Corporation Keystone Automotive Operations, Inc.

Kinder Morgan Kroger Specialty Pharmacy
Manassas NCP FF, LLC National Coating Corporation

Lead Industries Association MedMal Joint Underwriting Ass'n of RI

Musco Family Olive

Privately held auto parts company [identity kept confidential as per counsel request]

Professional Contract Sterilization, Inc.

Prolerized New England Co., Inc.

Rectrix Aerodome Centers, Inc.
Sterling NCP FF, LLC

Stebbins-Duffy, Inc.
Taotao USA, Inc.

Valley Solar

WDC Holdings LLC d/b/a Northstar Commercial Partners

In addition to the industry clients listed above, Mr. Shefftz has also performed work on behalf of numerous other industry clients and their insurers on economic damages cases, but without any direct interaction with such parties and their insurers or any analytical focus on them.

Representative Clients (continued)

Citizen Groups:

Advance Etowah

Alabama Environmental Council

Appalachian Voices

Black Warrior Riverkeeper

Center for Biological Diversity

Center for Justice

Citizens Against Ruining the Environment

Communities for a Healthy Bay

Coosa Riverkeeper

Earthrise Law Center

Environment America Research & Policy

Environmental Defense Center

Environmental Law and Policy Center

Food & Water Watch

Friends of the Lower Keys

Grand Canyon Trust

High Country Conservation Advocates

Idaho Conservation League

Inst. for Governance & Sustainable Develop.

Louisiana Environmental Action Network

National Environmental Law Center

Natural Resources Defense Council

Northwest Environmental Defense Center

Okanogan Highlands Alliance

Orange County Coastkeeper

Our Children's Earth Foundation

PennEnvironment

Prairie Rivers Network

Puget Soundkeeper Alliance

RE Sources for Sustainable Communities

St. Bernard Citizens for Environ. Quality

Advocates for the West

Appalachian Mountain Advocates

Biodiversity Conservation Alliance

Blue Water Baltimore, Inc.

Center for Comm. Action & Environ. Justice

Chesapeake Legal Alliance

Clean Air Council

Conservation Law Foundation

Earthjustice

Ecological Rights Foundation

Environmental Advocates of New York

Environmental Integrity Project

Environment Texas Citizen Lobby, Inc.

Friends of Lick Creek

Frontier Group

Gulf Restoration Network

Hoosier Environmental Council

Inland Empire Waterkeeper

Louisiana Bucket Brigade

Lower Susquehanna Riverkeeper Association

National Parks Conservation Association

Newark Education Workers Caucus

Ohio Valley Environmental Coalition

Olympic Forest Coalition

Oregon Public Interest Research Group

Pacific Environmental Advocacy Center

Potomac Riverkeeper

Public Justice

Raritan (NY/NJ) Baykeeper

Respiratory Health Association

San Antonio Bay Estuarine Waterkeeper

Representative Clients (continued)

Citizen Groups (continued):

San Francisco Baykeeper
Sierra Club
Spokane Riverkeeper
Tampa Bay Waterkeeper
Toxics Action Center, Inc.
United States Public Interest Research Group
Waste Action Project
Wild Fish Conservancy
Willamette Riverkeeper

Save the Sound
South River Watershed Alliance, Inc.
Suncoast Waterkeeper
Texas Rio Grande Legal Aid, Inc.
Tulane Environmental Law Clinic
Univ. of Denver Environmental Law Clinic
West Virginia Highlands Conservancy
WildEarth Guardians

Representative Clients (continued)

Law Firms:

Adler, Cohen, Harvey, Wakeman & Guekguezian

Allyn & Ball, P.C. Arnold & Porter LLP

Bayh, Connaughton and Malone Bricklin & Newman, LLP

Brownstein Hyatt Farber Schreck, LLP Cain, Sherry, Geller & Vachereau

ChasenBoscolo

The Law Offices of William Chu The Collins Law Firm, P.C. D'Ambrosio Law Offices

Davison Law, LLC

Law Offices of John K. Dema, P.C. Doherty, Wallace, Pillsbury & Murphy

Downey Brand LLP

Frederick, Perales, Allmon & Rockwell, PC

Gallagher & Cavanaugh LLP
Garnett Powell Maximon Barlow
Gordon Rees Scully Mansukhani, LLP

Hanson Curran LLP

Henrichsen Siegel Moore, PLLC

Hogan Lovells US LLP Kampmeier & Knutsen PLLC

Kasowitz, Benson, Torres & Friedman LLP

Law Office of David E. Keller

Kirby McInerney LLP
Law Office of Amy Kropke
Kenneth Lieberman, Esq.
Lexington Law Group
Lucentini & Lucentini LLP
Manson Bolves Donaldson Varn

Law Office of Jacqueline L. Allen Aqua Terra Aeris Law Group

Barton Gilman LLP

Beveridge & Diamond PC

Brown Legal PLLC
Butler Snow LLP
Calderón & Williams
Chihak & Martel

Clinton & Muzyka, P.C. Cooper & Lewand-Martin, Inc.

DarrowEverett LLP

DeCotiis, FitzPatrick & Cole, LLP

DLA Piper

Donovan Hatem LLP Dreyer Boyajian LLP

Law Office of Austin J. Freeley

The Garcia Law Firm German Rubenstein LLP David S. Hammer, Esq. George E. Hays, Esq. Hoffner PLLC

Hunsucker Goodstein PC

Kaplan, Massamillo & Andrews, LLC

Keches Law Group Keller Rohrback L.L.P. James E. Kolenich, Esq. Meryl A. Kukura, Esq. Lawson & Weitzen, LLP Lozeau Drury LLP Mackie Shea O'Brien, PC

Mark, Migdal & Hayden LLC

Representative Clients (continued)

Law Firms (continued):

Marr Law Offices

Meyner and Landis LLP

Law Offices of Keith A. Minoff, P.C.

Morrison Mahoney LLP

Law Office of Jennifer F. Novak

Oliver Law Group Patton Boggs LLC Edward M. Pikula, Esq. Powell Environmental Law Raymond Law Group LLC

Reed Smith LLP

Law Offices of Russo & Minchoff Ryan, Ryan, Johnson & Deluca, LLP

Sartini Law, PC Saul Ewing LLP

Jon L. Schwartz, Attorney at Law, P.C.

Sheff & Cook, LLC

Simonds, Winslow, Willis & Abbott

Steve Harvey Law LLC

Sycamore Law

Van Ness Feldman LLP

Law Offices of Charles G. Walker

Wilson Elser Moskowitz Edelman & Dicker

Zaytoun Ballew & Taylor, PLLC

Meyers Nave

MFI Law Group PLLC Morrison & Foerster LLP

Motley Rice LLC

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The Schreiber Law Firm

Richard Schwartz & Associates, P.A. Silverstein, Silverstein & Silverstein P.A.

Smith & Lowney, PLLC

Stoel Rives LLP
Todd & Weld LLP

Vorys, Sater, Seymour and Pease LLP

Waltzer Wiygul & Garside LLC

Reed Zars, Esq.

Publications and Presentations

- Structural Changes in Interest Rates, paper discussant at Western Economic Association International Conference (on-line), 7/1/22.
- Cause and Effect: The Asymmetry in Deducing Effect and Inferring Cause, paper discussant at National Association of Forensic Economics Eastern Meeting (on-line), 2/25/22.
- How Good Is My Degree? Economic Damages from False Claims by Colleges, paper discussant at Western Economic Association International Annual Conference (on-line), 6/27/21.
- Social Security Losses in Personal Injury, paper discussant at Western Economic Association International Annual Conference (Portland OR), 7/1/16.
- The "Loss of Chance" Rule in the Various States, paper discussant at Allied Social Sciences Association Annual Conference (Philadelphia PA), 1/4/14.
- Foreign Net Discount Rates: The Case of Undocumented Mexican Workers, paper discussant at Western Economic Association International Annual Conference (Seattle WA), 6/30/13.
- Evolving Transition Probabilities and Worklives, paper discussant at Allied Social Sciences Association Annual Conference (San Diego CA), 1/5/13.
- Commercial Damages Calculations, panelist at Eastern Economic Association Annual Conference (Boston MA), 3/10/12.
- Medical Net Discount Rates: 1980 2011, paper discussant at Eastern Economic Association Annual Conference (Boston MA), 3/10/12.
- The Value of Future Earnings in Perfect Foresight Equilibrium, paper discussant at Allied Social Sciences Association Annual Conference (Denver CO), 1/8/11.
- The Role of the Economic Expert in Litigation Directed at Piercing the Corporate Veil, presentation at Fall Forensic Economics Workshop (Durango CO), 10/8/10.
- Alternative Perspectives for Breach-Nonbreach Scenario Specifications in Commercial Litigation, paper presentation at Western Economic Association International Annual Conference (Portland OR), 7/1/10.
- Sampling Issues in Commercial Damages Cases, paper discussant at Western Economic Association International Annual Conference (Vancouver BC), 7/1/09.
- Net Discount Rates: Does Duration Matter?, paper discussant at Eastern Economic Association Annual Conference (Boston MA), 3/7/08.

Publications and Presentations (continued)

- Enforcement Economics: Deterrence, Economic Benefit, & Ability to Pay, presentation at California Environmental Protection Agency State Water Resources Control Board "Enforcenomics" Workshop (Berkeley CA), 1/11/08.
- Alternative Focuses for "But-For" Scenario Specification in Commercial Litigation, paper presentation at Western Economic Association International Annual Conference (Seattle WA), 6/30/07.
- Expert Witness Role Play, presentation at U.S. EPA 9th Financial Analyst Workshop (Atlanta GA), 5/3/07.
- Working with Experts in Environmental Cases: An Expert Economist's Perspective on Expert Testimony, presentation at Public Interest Environmental Law Conference (Eugene OR), 3/2/07.
- Alternative Measures and Focuses for Economic Damages Calculations, paper presentation at Eastern Economic Association Annual Conference (New York NY), 2/23/07.
- Lost Profit as a Measure of Lost Earning Capacity, panelist at Western Economic Association International Annual Conference (San Francisco CA), 7/7/05
- "EPA's Economic Benefit Analysis Policy and Practice," *Natural Resources and Environment*, Fall 2004.
- "Taxation Considerations in Economic Damages Calculations," *Litigation Economics Review*, Summer 2004.
- Economic Benefit and Wrongful Profits in the Calculation of Penalties for Environmental Violations, presentation to Boston Bar Association Environmental Litigation Committee, 9/23/04.
- Business Valuation / Commercial Damages, panelist at Western Economic Association International Annual Conference (Vancouver BC), 7/1/04.
- "Wrongful Profits: Setting the Record, and the Concept, Straight," Environment Reporter, 1/2/04.
- Present Value Sensitivity to Ex Ante vs. Ex Post Perspective, paper presentation at Western Economic Association International Annual Conference (Denver CO), 7/12/03.
- Taxation Considerations in Economic Damages Calculations, paper presentation at Eastern Economic Association Annual Conference (New York NY), 2/22/03.

Publications and Presentations (continued)

Economic Benefit from Illegal Competitive Advantage and Complex Economic Benefit Scenarios, presentation at U.S. EPA 5th Financial Analyst Workshop (Boston MA), 7/26/00.

Economic Benefit in Wetlands Cases: Financial Analysis Issues, presentation at U.S. EPA Wetlands Enforcement Conference (Alexandria VA), 3/22/00.

Economic Benefit, presentation at U.S. EPA 4th Analyst Workshop (Denver CO), 3/10/99.

In addition to the publications and presentations listed above, Mr. Shefftz has published and presented extensively on topics unrelated to his economics consulting practice, mainly in the area of avalanche safety. He also holds various memberships and certifications in that field.

Testimony History

- Paula Appleton a/k/a Paula Sweet v. National Union Fire Insurance Company of Pittsburgh, PA, and AIG Claims, Inc. (USDC Mass), deposition 10/30/23.
- Sierra Club et al. v. Midwest Generation, LLC (Illinois Pollution Control Board), deposition 10/28/21 and hearing testimony 5/16&17/23.
- The State of New York, et al. v. Covanta Hempstead Company and Covanta Holding Corporation (NY Supreme Court), affidavit 5/04/23.
- James F. Riley, Jr. and Pamela B. Bankert v. Timothy S. Martinez, D.M.D. et al. (Mass. Superior Court), courtroom testimony 03/20/23.
- Amazon.com, Inc. and Amazon Data Services, Inc. v. WDC Holdings LLC dba Northstar Commercial Partners et al. (USDC ED Va), deposition 12/21/22.
- Sierra Club, Inc. and Conservation Law Foundation, Inc. v. Granite Shore Power LLC et al. (USDC ED NH), deposition 11/11/20 and courtroom testimony 10/20/22.
- San Francisco Baykeeper v. City of Mountain View and San Francisco Baykeeper v. City of Sunnyvale (USDC ND Calif.), deposition 8/18/21.
- Sierra Club v. Woodville Pellets, LLC (USDC ED Texas), deposition 7/29/21.
- Environmental Law & Policy Center and Hoosier Environmental Council v. Cleveland-Cliffs Burns Harbor, LLC and Cleveland-Cliffs Steel (USDC ND Indiana), deposition 7/14/21.
- PennEnvironment, Inc., and Clean Air Council v. United States Steel Corporation (USDC WD Penn), deposition 2/10/21.
- Ohio Valley Environmental Coalition and The Sierra Club v. Eagle Natrium LLC (USDC ND West Virginia), deposition 8/19/20.
- Gary and Anne Childress, et al. v. JP Morgan Chase & Co., et al. (USDC ED North Carolina), deposition 1/24/19 and affidavit 3/17/20.
- Seneca Economics and Environment, LLC v. Manson Bolves Donaldson Varn, P.A. (Florida Circuit Court), affidavit 2/26/20.
- Permit application for Plaquemines Liquids Terminal, LLC (Louisiana DEQ), affidavit 1/27/20.
- Newark Education Workers Caucus and Natural Resources Defense Council, Inc. v. City of Newark et al. (USDC NJ), courtroom testimony 8/15/19.
- Wild Fish Conservancy v. Cooke Aquaculture Pacific, LLC (USDC WD Wash), deposition 8/02/19.

Testimony History (continued)

- Waste Action Project v. Port of Olympia (USDC WD Wash), deposition 7/17/19.
- Toxics Action Center, Inc. and Conservation Law Foundation v. Casella Waste Systems, Inc. and North Country Environmental Services, Inc. (USDC NH), deposition 5/15/19.
- Suncoast Waterkeeper, Our Children's Earth Foundation, and Ecological Rights Foundation v. City of Gulfport (USDC MD Fla), deposition 5/7/19.
- San Antonio Bay Estuarine Waterkeeper and S. Diane Wilson v. Formosa Plastics Corp., Texas, et al. (USDC SD Tex), deposition 1/16/19.
- Infinity Fluids Corporation v. Eemax, testimony at binding arbitration hearing, 12/6/18.
- Puget Soundkeeper Alliance v. Seattle Iron & Metals, Corp. (USDC WD Wash), deposition 10/4/18.
- Natural Resources Defense Council, Respiratory Health Association, and Sierra Club, Inc. v. Illinois Power Resources, LLC and Illinois Power Resources Generating, LLC (USDC CD Illinois), deposition 6/12/18.
- Louisiana Environmental Action Network and Stephanie Anthony v. Exxon Mobil Corp. d/b/a/ ExxonMobil Chemical Co. (USDC MD Louisiana), deposition 10/26/17.
- Jeffrey Palmer v. Inn Serve Corporation d/b/a Hampton Inn & Suites, Inn of Daphne, Inc. d/b/a Hampton Inn et al. (Court of Lauderdale County, Mississippi), affidavits 6/2/17 & 10/23/17.
- In the Matter of Taotao USA, Inc., Taotao Group Co., Ltd., and Jinyun County Xiangyuan Industry Co., Ltd. (U.S. EPA Administrative Court), deposition 9/26/17, courtroom testimony 10/19/17.
- Puget Soundkeeper Alliance v. Louis Dreyfus Commodities LLC et al. (USDC WD Wash), deposition 3/2/16.
- Gulf Restoration Network, Louisiana Environmental Action Network, and Sierra Club v. United Bulk Terminals Davant, L.L.C. (USDC ED Louisiana), deposition 5/5/15.
- Village of Stillwater, Town of Stillwater, Town of Waterford, Water Commissioners of the Town of Waterford, Village of Waterford, Town of Halfmoon, and County of Saratoga v. General Electric Company et al.; and Saratoga County Water Authority v. General Electric Company (USDC ND New York), deposition 4/2/14.
- Environment Texas Citizen Lobby, Inc. and Sierra Club v. ExxonMobil Corporation, et al. (USDC SD Tex), deposition 6/1/12, courtroom testimony 2/14/14.

Testimony History (continued)

- Waste Action Project v. Draper Valley Holdings LLC dba Draper Valley Farms (USDC WD Wash), deposition 1/21/14.
- RE Sources for Sustainable Communities v. Pacific International Terminals, Inc. (USDC WD Wash), deposition 4/11/13.
- WildEarth Guardians v. Lamar Utilities Board doing business as Lamar Light and Power, and Arkansas Power Authority (USDC Colo), deposition 3/22/13.
- Tina A. Rhodes, Individually and as Administratrix of David C. Rhodes, et al. v. Tyrone Gadsen and GP&T Transport, Inc. (Mass. Superior Court), deposition 12/11/12, courtroom testimony 1/23/13.
- Waste Action Project v. Sierra Pacific Industries dba Sierra Junction City Sawmills (USDC WD Wash), deposition 12/28/12.
- People of the State of California and The City of San Diego v. Kinder Morgan Energy Partners, L.P., et al. (USDC SD Cal), deposition 4/26/12.
- Marvin Evans v. Certain Underwriters at Lloyd's London, KMS Associates, Inc., Greenwich Insurance Company, W. Brown & Associates, Inc. and Hub International Gulf South Limited f/k/a/Hibernia Rosenthal Insurance Agency, LLC d/b/a Hibernia Rosenthal (Florida Circuit Court), depositions 9/15/11 and 11/15/10.
- Bouncing Cranberries LLC v. CommonPlaces eSolutions, LLC, testimony at binding arbitration hearing 8/18/11.
- Puget Soundkeeper Alliance v. BNSF Railway Company (USDC WD Wash), deposition 7/7/11.
- State of Texas v. BP Products North America Inc. (Texas District Court), deposition 6/7/11.
- Chevron Corporation v. Jonathan S. Shefftz (USDC Mass) and Maria Aguinda et al. v. Chevron Corporation (Court of Justice of Nueva Loja, Ecuador), deposition 12/16/10.
- Elizabeth Russell and Katherine Gates v. Joseph Reilly and James Georges, Executors of the Estate of K. Mildred Dooling, a/k/a Mildred K. Dooling, and Patrick Curtin, Individually and as Trustee of the M.D. Realty Trust (Mass. Superior Court), courtroom testimony 7/21/10.
- Hildagarde Bartling, et al. v. Country Villa Bay Vista Healthcare Center, et al. (California State Court), deposition 1/29/10.
- Joseph J. Zajac III v. Pamela J. Trueblood, et al. (USDC MD Fla), affidavit 9/16/09.

Testimony History (continued)

- In the matter of 99 Cents Only Stores (U.S. EPA Administrative Court), courtroom testimony 6/24/09.
- U.S. v. Government of Guam (USDC Guam), courtroom testimony 12/9/08 and 4/13/09.
- U.S. v. James and Nancy Oliver d/b/a Safety Waste Incineration (USDC Alaska), courtroom testimony 3/25/09 and 3/27/09.
- In the matter of Valimet, Inc. (U.S. EPA Administrative Court), courtroom testimony 12/10/08.
- Rectrix Aerodome Centers, Inc. v. Barnstable Municipal Airport Commission, et al. (USDC Mass), deposition 12/2/08.
- State of Ohio v. The Shelly Holding Company et al. (Franklin County Municipal Court), depositions 7/30/08 and 9/19/08, courtroom testimony 10/16/08 and 10/17/08.
- In the matter of Lowell Vos Feedlot (U.S. EPA Administrative Court), courtroom testimony 9/17/08.
- French Heritage, Inc. v. Ethan Allen, Inc. (Connecticut State Court), deposition 6/28/06 and 6/29/06.
- Oregon Public Interest Research Group, Diane Heintz, and Rena Taylor v. Pacific Coast Seafoods Company, Pacific Surimi Joint Venture, LLC, Pacific Surimi Co., Inc., and Dulcich Inc. d/b/a Pacific Seafood Group (USDC Oregon), deposition 4/18/06.
- In the matter of Rizing Sun LLC (U.S. EPA Administrative Court), courtroom testimony 2/7/06.
- State of Ohio v. Container Recyclers, Inc. (Franklin County Municipal Court), deposition 4/1/05.
- In the matter of Vico Construction Corporation and Smith Farm Enterprises (U.S. EPA Administrative Court), courtroom testimony 6/20/02 and 10/8/03.
- U.S. v. The New Portland Meadows, Inc. (USDC Oregon), courtroom testimony 5/20/03.
- In the matter of Vico Construction Corporation and Amelia Venture Properties (U.S. EPA Administrative Court), courtroom testimony 1/14/03.
- United States Public Interest Research Group, Stephen E. Crawford, and Charles Fitzgerald v. Heritage Salmon, Inc.; U.S. PIRG et al. v. Stolt Sea Farm, Inc.; U.S. PIRG et al. v. Atlantic Salmon of Maine LLC (USDC Maine), deposition 6/5/01, courtroom testimony 10/15/02.
- U.S. v. Murphy Oil USA, Inc. (USDC WD Wis), deposition 4/24/01.
- U.S. v. Royal Oak Enterprises, Inc. (USDC ED Va), depositions 3/22/00 and 5/19/00.
- In the matter of Titan Wheel Corp. of Iowa (U.S. EPA Administrative Court), affidavit 11/24/99.

Testimony History (continued)

U.S. v. Gulf States Steel, Inc. (USDC ND Ala), affidavit 12/30/98, deposition 10/22/99.

U.S. v. Koch Industries, Inc. (USDC ND Okla and SD Tex), depositions 5/24/99 and 6/1/99.

State of Wisconsin v. I-K-I Manufacturing Company, Inc., deposition 4/13/99.

U.S. v. Borden Chemicals & Plastics (USDC MD La), deposition 2/5/98.

State of New Hampshire v. Johnson Products, Incorporated, deposition 2/3/98.

In the matter of EK Associates, L.P., d/b/a EKCO/GLACO, and EK Management Corporation (U.S. EPA Administrative Court), courtroom testimony 8/14/97.

U.S. v. Smithfield Foods, Inc., et al. (USDC ED Va), deposition 7/9/97.

U.S. v. Nucor Corporation (USDC ND Ala), deposition 6/12/97.

U.S. v. U.S. Metallics, Inc., and Town of Onalaska, Wis. (USDC WD Wis), affidavit 10/21/96.